

**October 24, 2001**

Mr. Richard Kreider  
Kreider Manufacturing, Inc.  
P.O. Box 130  
Ligonier, Indiana 46767

Re: 113-14502-00036  
Significant Source Modification to:  
Part 70 permit No.: T113-6053-00036

Dear Mr. Kreider:

Kreider Manufacturing, Inc. was issued Part 70 operating permit T113-6053-00036 on March 31, 1998 for a custom RV parts manufacturing operation. An application to modify the source was received on June 7, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(a) One granite sink top line consisting of:

- (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
- (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
- (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
- (4) Two (2) hand grinders for final finish operations.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of

this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a Significant Permit Modification in accordance with 326 IAC 2-7-12(d). Operation is not approved until the Significant Permit Modification has been issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Mike Pring, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7890 to speak directly to Mr. Pring. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

#### Attachments

ERG/MP

cc: File - Noble County  
Noble County Health Department  
Northern Regional Office  
Air Compliance Section Inspector - Doyle Houser  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner  
Office of Air Enforcement - Brian Eaton

**PART 70 OPERATING PERMIT  
and Enhanced New Source Review (ENSR)  
OFFICE OF AIR QUALITY**

**Kreider Manufacturing, Inc.  
405 Gerber Street  
Ligonier, Indiana 46767**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T113-6053-00036	
Issued by: Felicia R. George, Assistant Commissioner Office of Air Management	Issuance Date: March 31, 1998

First Administrative Amendment No: AAT 113-10174-00036 issued March 8, 1999

Significant Source Modification No.: 113-14502-00036	Pages Affected: 4,4a, 30a-30g, 34a
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: October 24, 2001

## TABLE OF CONTENTS

<b>SECTION A</b>	<b>SOURCE SUMMARY</b>	<b>4</b>
A.1	General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]	
A.3	Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]	
A.4	Part 70 Permit Applicability [326 IAC 2-7-2]	
A.5	Prior Permit Conditions Superseded [326 IAC 2]	
<b>SECTION B</b>	<b>GENERAL CONDITIONS</b>	<b>6</b>
B.1	Permit No Defense [326 IAC 2-1-10] [IC 13]	
B.2	Definitions [326 IAC 2-7-1]	
B.3	Permit Term [326 IAC 2-7-5(2)]	
B.4	Enforceability [326 IAC 2-7-7(a)]	
B.5	Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]	
B.6	Severability [326 IAC 2-7-5(5)]	
B.7	Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.8	Duty to Supplement and Provide Information [326 IAC 2-7-4(b)] [326 IAC 2-7-5(6)(E)]	
B.9	Compliance with Permit Conditions [326 IAC 2-7-5(6)(A)] [326 IAC 2-7-5(6)(B)]	
B.10	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)]	
B.11	Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.12	Preventive Maintenance Plan [326 IAC 2-7-5][326 IAC 2-7-6][326 IAC 1-6-3]	
B.13	Emergency Provisions [326 IAC 2-7-16]	
B.14	Permit Shield [326 IAC 2-7-15]	
B.15	Multiple Exceedances [326 IAC 2-7-5(1)(E)]	
B.16	Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]	
B.17	Permit Modification, Reopening, Revocation and Reissuance, or Termination	
B.18	Permit Renewal [326 IAC 2-7-4]	
B.19	Administrative Permit Amendment [326 IAC 2-7-11]	
B.20	Minor Permit Modification [326 IAC 2-7-12]	
B.21	Significant Permit Modification [326 IAC 2-7-12(d)]	
B.22	Permit Revision Under Economic Incentives and Other Programs	
B.23	Changes Under Section 502(b)(10) of the Clean Air Act [326 IAC 2-7-20(b)]	
B.24	Operational Flexibility [326 IAC 2-7-20]	
B.25	Construction Permit Requirement [326 IAC 2]	
B.26	Inspection and Entry [326 IAC 2-7-6(2)]	
B.27	Transfer of Ownership or Operation [326 IAC 2-1-6] [326 IAC 2-7-11]	
B.28	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)]	
B.29	Enhanced New Source Review [326 IAC 2]	
<b>SECTION C</b>	<b>SOURCE OPERATION CONDITIONS</b>	<b>18</b>
	<b>Emission Limitations and Standards [326 IAC 2-7-5(1)]</b>	
C.1	PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]	
C.2	Opacity [326 IAC 5-1]	
C.3	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4	Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
C.7	Asbestos Abatement Projects - Accreditation [326 IAC 14-10] [326 IAC 18]	
	<b>Testing Requirements [326 IAC 2-7-6(1)]</b>	
C.8	Performance Testing [326 IAC 3-2.1]	

## TABLE OF CONTENTS (Continued)

### **Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

- C.9 Compliance Schedule [326 IAC 2-7-6(3)]
- C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
- C.11 Monitoring Methods [326 IAC 3]
- C.12 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61.140]

### **Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

- C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]
- C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5(3)]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test

### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-6] [326 IAC 2-7-19]
- C.18 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]
- C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)(B)]
- C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

### **Stratospheric Ozone Protection**

- C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

## **D.1 FACILITY OPERATION CONDITIONS ..... 27**

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-6]
- D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

### **Compliance Determination Requirements**

- D.1.4 Testing Requirements [326 IAC 2-7-6(1)]
- D.1.5 Volatile Organic Compounds (VOC)

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.1.6 Particulate Matter (PM)
- D.1.7 Monitoring

### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.1.8 Record Keeping Requirements
- D.1.9 Reporting Requirements

## **SECTION D.2 FACILITY OPERATION CONDITIONS - Insignificant Activities ..... 30**

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.2.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

### **Compliance Determination Requirements**

- D.2.2 Testing Requirements [326 IAC 2-7-6(1)]

## **SECTION D.3 FACILITY OPERATION CONDITIONS ..... 30a**

### **Emissions Limitation and Standards**

- D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.3.2 New Source Toxics Control [326 IAC 2-4.1]

## TABLE OF CONTENTS (Continued)

- D.3.3 Styrene [326 IAC 20-25]
- D.3.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]
- D.3.5 Preventive Maintenance Plan [326 IAC 1-6-3]

### **Compliance Determination Requirements**

- D.3.6 Testing Requirements [326 IAC 3-2.1]
- D.3.7 Hazardous Air Pollutants (HAP) and Volatile Organic Compounds (VOC)

### **Compliance Monitoring Requirements**

- D.3.8 Particulate Matter (PM)
- D.3.9 Monitoring
- D.3.10 Visible Emissions Notations

### **Record Keeping and Reporting Requirements**

- D.3.11 Record Keeping Requirements
- D.3.12 Reporting Requirements

Certification Form . . . . .	31
Emergency/Deviation Occurrence Report . . . . .	32
Quarterly Report Form . . . . .	34 and 34a
Compliance Report Form . . . . .	35

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM), and presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a stationary gel coat and resin/fiberglass application plant for the production of custom RV parts.

Responsible Official: Richard Kreider  
Source Address: 405 Gerber Street, Ligonier, Indiana 46767  
Mailing Address: 405 Gerber Street, Ligonier, Indiana 46767  
SIC Code: 3713  
County Location: Noble  
County Status: Attainment for all criteria pollutants  
Source Status: Part 70 Permit Program  
Minor Source, under PSD Rules;  
Major Source, Section 112 of the Clean Air Act

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) airless gel coat applicator identified as EU01, with the maximum capacity to coat 8.7 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as S/V-1, S/V-2, S/V-3, and S/V-4.
- (b) One (1) flow coat resin/fiberglass applicator, identified as EU02, with the maximum capacity to process 8.7 units per hour, with dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as S/V-1, S/V-2, S/V-3, and S/V-4.
- (c) One (1) airless gel coat applicator identified as EU03, constructed in 1978, with the maximum capacity to coat 8.7 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as S/V-1, S/V-2, S/V-3, and S/V-4.
- (d) One (1) flow coat resin/fiberglass applicator, identified as EU04, constructed in 1978, with the maximum capacity to process 8.7 units per hour, with dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as S/V-1, S/V-2, S/V-3, and S/V-4.
- (e) One (1) air atomized spray gun, identified as EU05, constructed in 1978, with the maximum capacity to paint 2.61 units per hour, with dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as S/V-1, S/V-2, S/V-3, and S/V-4.
- (f) One (1) vertical resin storage tank, constructed in 1978, with a maximum capacity of 5618 gallons, identified as EU06. The throughput is 45,293 gallons per year of styrene.
- (g) One granite sink top line consisting of:
  - (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.

- (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
- (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
- (4) Two (2) hand grinders for final finish operations.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAP's: brazing equipment, cutting torches, soldering equipment, welding equipment.



## SECTION D.3

## FACILITY OPERATION CONDITIONS

### Facility Description:

- (g) One granite sink top line consisting of:
- (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (4) Two (2) hand grinders for final finish operations.

## Emissions Limitation and Standards

### D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the new granite top operation is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. Pursuant to 326 IAC 8-1-6 (Best Available Control Technology), the input of VOC to the new granite top operation shall be limited to 36 tons per 12 consecutive month period. Compliance with this limit and the requirements of 326 IAC 2-4.1-1 (MACT) has been determined to satisfy the requirements of BACT.

### D.3.2 New Source Toxics Control [326 IAC 2-4.1]

Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new granite top operation shall be the following:

- (a) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 36 tons per twelve (12) consecutive months. Compliance with this limit shall be determined based upon the following criteria:
- (1) Monthly usage by weight, weight percent monomer content that is HAP, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.
  - (2) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAQ: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray

application. For operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

- (b) Resins and gel coats used shall be limited to the maximum HAP monomer contents listed in the following table, or their equivalent on an emissions mass basis, depending on the application method and products produced:

Type of Gel Coat or Resin	HAP Monomer Content, % by Weight
Production <sup>1</sup> Gel Coat	37
Tooling <sup>2</sup> Gel Coat	38
Production Resin	35
Tooling Resin	43

<sup>1</sup> Production refers to the manufacture of parts.

<sup>2</sup> Tooling refers to the manufacture of the molds from which parts are manufactured.

Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition D.3.11 is sufficient for demonstrating compliance with the HAP monomer content limits.

Compliance with the limitations contained in this condition may be demonstrated using monthly emission averaging within each resin or gel coat application category listed in subsection(b) by the use of resins or gel coats with HAP monomer contents lower than the limits specified and/or additional emission reduction techniques approved by IDEM, OAQ.

Examples of emission reduction techniques include, but are not limited to, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:

For Averaging within a category:

$$Em_A \leq (M_R * E_a)$$

Where:

$M_R$  = Total monthly mass of material within each category

$E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.

$Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls

Units: mass = tons

emission factor = lbs of monomer per ton of resin or gel coat

emissions = lbs of monomer

- (c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

- (d) Unless specified in subsection (c), gel coat application and mechanical application of resins shall be by any of the following spray technologies:

- (1) Nonatomized application technology.
- (2) Air-assisted airless.
- (3) Airless.
- (4) High volume, low pressure (HVLP).
- (5) Equivalent emission reduction technologies to subdivisions (2) through (4).

- (e) Cleaning operations for resin and gel coat application equipment shall meet the following:

- (1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.
- (2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.
- (3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.

- (f) The work practice and training standards required pursuant to 326 IAC 20-25 as specified in Condition D.3.3 shall be followed.

#### D.3.3 Styrene [326 IAC 20-25]

The following shall apply to the reinforced plastic composites open molding process:

- (a) Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:
- (1) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
  - (2) Except for mixing containers as described in item (7), HAP containing materials shall be kept in a closed container when not in use.

- (3) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
  - (4) Solvent collection containers shall be kept closed when not in use.
  - (5) Clean-up rags with solvent shall be stored in closed containers.
  - (6) Closed containers shall be used for the storage of the following:
    - (A) All production and tooling resins that contain HAPs.
    - (B) All production and tooling gel coats that contain HAPs.
    - (C) Waste resins and gel coats that contain HAPs.
    - (D) Cleaning materials, including waste cleaning materials.
    - (E) Other materials that contain HAPs.
  - (7) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.
- (b) Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:
- (1) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.
  - (2) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.
  - (3) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.
  - (4) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (1) if written documentation that the employee's training is current is provided to the new employer.
  - (5) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.

The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

- (1) Appropriate application techniques.
- (2) Appropriate equipment cleaning procedures.
- (3) Appropriate equipment setup and adjustment to minimize material usage and overspray.

The owner or operator shall maintain the following training records on site and available for inspection and review:

- (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.
- (c) Pursuant to 326 IAC 20-25-7(b), on or before March 1, 2002, the owner or operator of a source subject to 326 IAC 20-25 shall submit an initial statement of compliance to the commissioner. The initial statement of compliance shall include all of the following:
- (1) Name and address of the owner or operator.
  - (2) Address of the physical location.
  - (3) Statement signed by a responsible official, as set forth in 326 IAC 2-7-1(34), certifying that the source achieved compliance on or before January 1, 2002, the method used to achieve compliance, and that the source is in compliance with all the requirements of this rule.

**D.3.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

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Pursuant to 326 IAC 6-3-2(c), the particulate matter emissions from the fiberglass operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

**D.3.5 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

**Compliance Determination Requirements**

**D.3.6 Testing Requirements [326 IAC 3-2.1]**

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The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the volatile organic HAP limit specified in Condition D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

**D.3.7 Hazardous Air Pollutants (HAP) and Volatile Organic Compounds (VOC)**

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Compliance with the VOC usage limitation in D.3.1 and Compliance with the HAP monomer content and usage limitations in Condition D.3.2 shall be determined by one of the following:

- (1) The manufacturer's certified product data sheet.
- (2) The manufacturer's material safety data sheet.

- (3) Sampling and analysis, using any of the following test methods, as applicable:
  - (A) 40 CFR 60, Method 24, Appendix A (July 1, 1998)\*, shall be used to measure the total volatile HAP and volatile organic compound (VOC) content of resins and gel coats. Method 24 may be modified for measuring the volatile HAP content of resins or gel coats to require that the procedure be performed on uncatalyzed resin or gel coat samples.
  - (B) 40 CFR 63, Method 311, Appendix A (July 1, 1998)\*, shall be used to measure HAP content in resins and gel coats by direct injection into a gas chromatograph.
- (4) An alternate method approved by IDEM, OAQ.

### Compliance Monitoring Requirements

#### D.3.8 Particulate Matter (PM)

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The dry filters for particulate matter control shall be in operation at all times when the fiberglass facilities are in operation.

#### D.3.9 Monitoring

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

#### D.3.10 Visible Emissions Notations

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- (a) Weekly visible emission notations of the fiberglass facilities' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

## Record Keeping and Reporting Requirements

### D.3.11 Record Keeping Requirements

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- (a) To document compliance with Conditions D.3.1 and D.3.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the volatile organic compound and volatile HAP emission limits established in Conditions D.3.1 and D.3.2.
  - (1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, VOC and HAP content of each resin or gel coat;
  - (2) A log of the dates of use;
  - (3) Method of application and other emission reduction techniques for each resin and gel coat used;
  - (4) The calculated total volatile organic HAP emissions from resin and gel coat use for each month.
  - (5) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.
- (b) To document compliance with Condition D.3.3(b), the Permittee shall maintain the following training records:
  - (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.
- (c) To document compliance with Conditions D.3.4 and D.3.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with Condition D.3.10, the Permittee shall maintain records of daily visible emission notations of the fiberglass operations' stack exhaust.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### D.3.12 Reporting Requirements

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A quarterly summary of the information to document compliance with Conditions D.3.1 and D.3.2 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Source Modification Quarterly Report**

Source Name: Kreider Manufacturing, Inc.  
Source Address: 405 Gerber Street, Ligonier, Indiana 46767  
Mailing Address: 405 Gerber Street, Ligonier, Indiana 46767  
Part 70 Permit No.: 113-6053-00036  
Facility: Granite Sink Top Line  
Parameter: Volatile organic compounds (VOC)  
Limit: Input of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) to the granite sink top line shall be limited to 36 tons per twelve (12) month consecutive period, rolled on a monthly basis.

YEAR: \_\_\_\_\_

Month	Input of VOC (tons) This Month	Input of HAPs (tons) This Month	Input of VOC (tons) Last 12 Month Total	Input of HAPs (tons) Last 12 Month Total
Month 1				
Month 2				
Month 3				

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.  
Deviation has been reported on: \_\_\_\_\_

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_



**October 24, 2001**

**Indiana Department of Environmental Management  
Office of Air Quality and the Northern Regional Office**

**Technical Support Document (TSD) for a  
Part 70 Significant Source Modification and  
a Part 70 Significant Permit Modification**

**Source Background and Description**

Source Name:	Kreider Manufacturing, Inc.
Source Location:	405 Gerber Street, Ligonier, Indiana 46767
County:	Noble
SIC Code:	3713
Operation Permit No.:	T113-6053-00036
Operation Permit Issuance Date:	March 31, 1998
Significant Source Modification No.:	113-14502-00036
Significant Permit Modification No.:	113-14719-00036
Permit Reviewer:	ERG/MP

The Office of Air Quality (OAQ) has reviewed a modification application from Kreider Manufacturing, Inc., relating to the construction of the following emission units and pollution control devices:

- (g) One granite sink top line consisting of:
- (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (4) Two (2) hand grinders for final finish operations.

**History**

On June 7, 2001, Kreider Manufacturing Inc., submitted an application to the OAQ requesting to add a new granite top building operation to their existing plant. Kreider Manufacturing Inc., was issued a Part 70 permit on March 31, 1998.

## Enforcement Issue

There are no enforcement actions pending.

## Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S/V-1	granite tops	10	4.0	21,470	ambient
S/V-2	granite tops	10	4.0	21,470	ambient
S/V-3	granite tops	10	4.0	21,470	ambient
S/V-4	marble tops	10	4.0	21,470	ambient

## Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 7, 2001.

## Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 and 2).

## Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	16.1
PM-10	16.1
SO <sub>2</sub>	--
VOC	35.9
CO	--
NO <sub>x</sub>	--

HAP's	Potential To Emit (tons/year)
styrene	34.2
methyl ethyl ketone	0.11
methyl methacrylate	1.62
TOTAL	35.9

### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification and a Part 70 Significant Permit Modification. The source modification is being performed pursuant to 326 IAC 2-7-10.5(F)(4)(d), as the potential to emit of VOC is greater than 25 tpy, and the permit modification is being performed pursuant to 326 IAC 2-7-12(d).

### County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Noble County has been classified as attainment or unclassifiable for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based on operation at rated capacity):

Pollutant	Emissions (tons/year)
PM	249
PM-10	249
SO <sub>2</sub>	less than 100
VOC	less than 125
CO	less than 100
NO <sub>x</sub>	less than 100

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the TSD for the Title V permit (113-6053-00036).

### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls.

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
granite top operation	16	16		36			36
<b>Total</b>	16	16		36			36
PSD Significant Level	25	15	40	40	100	40	NA

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

#### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) National There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

#### State Rule Applicability - Individual Facilities

##### 326 IAC 8-1-6 (Volatile Organic Compounds (VOC))

Pursuant to 326 IAC 8-1-6, the new granite top operation is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. Pursuant to 326 IAC 8-1-6 (Best Available Control Technology), the input of VOC to the new granite top operation shall be limited to 36 tons per 12 consecutive month period. Compliance with this limit and the requirements of 326 IAC 2-4.1-1 (MACT) has been determined to satisfy the requirements of BACT.

##### 326 IAC 2-4.1 (New Source Toxics Control)

Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new granite top operation shall be the following:

- (a) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 36 tons per twelve (12) consecutive months. Compliance with this limit shall be determined based upon the following criteria:
  - (1) Monthly usage by weight, weight percent monomer content that is HAP, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.

(2) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAQ: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. For operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.

(b) Resins and gel coats used shall be limited to the maximum HAP monomer contents listed in the following table, or their equivalent on an emissions mass basis, depending on the application method and products produced:

Type of Gel Coat or Resin	HAP Monomer Content, % by Weight
Production <sup>1</sup> Gel Coat	37
Tooling <sup>2</sup> Gel Coat	38
Production Resin	35
Tooling Resin	43

<sup>1</sup> Production refers to the manufacture of parts.

<sup>2</sup> Tooling refers to the manufacture of the molds from which parts are manufactured.

Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage is sufficient for demonstrating compliance with the HAP monomer content limits.

Compliance with the limitations contained in this condition may be demonstrated using monthly emission averaging within each resin or gel coat application category listed in subsection(b) by the use of resins or gel coats with HAP monomer contents lower than the limits specified and/or additional emission reduction techniques approved by IDEM, OAQ.

Examples of emission reduction techniques include, but are not limited to, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:

For Averaging within a category:

$$Em_A \leq (M_R * E_a)$$

Where:

$M_R$  = Total monthly mass of material within each category

$E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.

$Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls

Units: mass = tons

emission factor = lbs of monomer per ton of resin or gel coat

emissions = lbs of monomer

- (c) Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.

If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.

- (d) Unless specified in subsection (c), gel coat application and mechanical application of resins shall be by any of the following spray technologies:
- (1) Nonatomized application technology.
  - (2) Air-assisted airless.
  - (3) Airless.
  - (4) High volume, low pressure (HVLP).
  - (5) Equivalent emission reduction technologies to subdivisions (2) through (4).
- (e) Cleaning operations for resin and gel coat application equipment shall meet the following:
- (1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.
  - (2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.

- (3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.
- (f) The work practice and training standards required pursuant to 326 IAC 20-25 shall be followed.

326 IAC 20-25 (Styrene)

The following shall apply to the reinforced plastic composites open molding process:

- (a) Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:
  - (1) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
  - (2) Except for mixing containers as described in item (7), HAP containing materials shall be kept in a closed container when not in use.
  - (3) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
  - (4) Solvent collection containers shall be kept closed when not in use.
  - (5) Clean-up rags with solvent shall be stored in closed containers.
  - (6) Closed containers shall be used for the storage of the following:
    - (A) All production and tooling resins that contain HAPs.
    - (B) All production and tooling gel coats that contain HAPs.
    - (C) Waste resins and gel coats that contain HAPs.
    - (D) Cleaning materials, including waste cleaning materials.
    - (E) Other materials that contain HAPs.
  - (7) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.
- (b) Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:
  - (1) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.
  - (2) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.
  - (3) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.

- (4) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (1) if written documentation that the employee's training is current is provided to the new employer.
- (5) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.

The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:

- (1) Appropriate application techniques.
- (2) Appropriate equipment cleaning procedures.
- (3) Appropriate equipment setup and adjustment to minimize material usage and overspray.

The owner or operator shall maintain the following training records on site and available for inspection and review:

- (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.
- (c) Pursuant to 326 IAC 20-25-7(b), on or before March 1, 2002, the owner or operator of a source subject to 326 IAC 20-25 shall submit an initial statement of compliance to the commissioner. The initial statement of compliance shall include all of the following:
- (1) Name and address of the owner or operator.
  - (2) Address of the physical location.
  - (3) Statement signed by a responsible official, as set forth in 326 IAC 2-7-1(34), certifying that the source achieved compliance on or before January 1, 2002, the method used to achieve compliance, and that the source is in compliance with all the requirements of this rule.

326 IAC 6-3-2(c) (Particulate Matter (PM))

Pursuant to 326 IAC 6-3-2(c), the particulate matter emissions from the fiberglass operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$



## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this modification are as follows:

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (d) Weekly visible emission notations of the fiberglass facilities' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (e) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (f) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (g) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (h) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary because the dry filters must be in place to ensure compliance with 326 IAC 6-3-2(c).

## Proposed Changes

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (g) One granite sink top line consisting of:
- (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (4) Two (2) hand grinders for final finish operations.

## SECTION D.3

## FACILITY OPERATION CONDITIONS

### Facility Description:

- (g) One granite sink top line consisting of:
- (1) One gel matrix spray gun (MT-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (2) One pressure spray pot (PP-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (3) One final finish operation (GTFF-1), with a maximum capacity of 2.05 units per hour, using dry filters for control, exhausting to four (4) 21470 acfm through-the-wall fans, identified as SV-1, S/V-2, S/V-3, and S/V 4.
  - (4) Two (2) hand grinders for final finish operations.

## Emissions Limitation and Standards

### D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Pursuant to 326 IAC 8-1-6, the new granite top operation is subject to the requirements of 326 IAC 8-1-6, which requires that the Best Available Control Technology (BACT) be used to control VOC emissions. Pursuant to 326 IAC 8-1-6 (Best Available Control

Technology), the input of VOC to the new granite top operation shall be limited to 36 tons per 12 consecutive month period. Compliance with this limit and the requirements of 326 IAC 2-4.1-1 (MACT) has been determined to satisfy the requirements of BACT.

**D.3.2 New Source Toxics Control [326 IAC 2-4.1]**

Pursuant to the MACT determination under 326 IAC 2-4.1-1, operating conditions for the new granite top operation shall be the following:

- (a) Use of resins and gel coats shall be limited such that the potential to emit (PTE) volatile organic HAP from resins and gel coats only shall be less than 36 tons per twelve (12) consecutive months. Compliance with this limit shall be determined based upon the following criteria:
- (1) Monthly usage by weight, weight percent monomer content that is HAP, method of application, and other emission reduction techniques for each gel coat and resin shall be recorded. Volatile organic HAP emissions shall be calculated by multiplying the usage of each gel coat and resin by the emission factor that is appropriate for the monomer content, method of application, and other emission reduction techniques for each gel coat and resin, and summing the emissions for all gel coats and resins. Emission factors shall be obtained from the reference approved by IDEM, OAQ.
- (2) Until such time that new emissions information is made available by U.S. EPA in its AP-42 document or other U.S. EPA-approved form, emission factors shall be taken from the following reference approved by IDEM, OAQ: "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association, April 1999, with the exception of the emission factors for controlled spray application. For operations not addressed by this reference, emission factors shall be taken from U.S. EPA's AP-42 document. For the purposes of these emission calculations, HAP monomer in resins and gel coats that is not styrene or methyl methacrylate shall be considered as styrene on an equivalent weight basis.
- (b) Resins and gel coats used shall be limited to the maximum HAP monomer contents listed in the following table, or their equivalent on an emissions mass basis, depending on the application method and products produced:

Type of Gel Coat or Resin	HAP Monomer Content, % by Weight
Production <sup>1</sup> Gel Coat	37
Tooling <sup>2</sup> Gel Coat	38
Production Resin	35
Tooling Resin	43

<sup>1</sup> Production refers to the manufacture of parts.

<sup>2</sup> Tooling refers to the manufacture of the molds from which parts are manufactured.

Compliance with these HAP monomer content limits shall be demonstrated on a monthly basis. If all of the resins and gel coats used during a month meet the specified HAP monomer content limits, then maintaining records of content and usage as specified under Condition D.3.11 is sufficient for demonstrating compliance with the HAP monomer content limits.

**Compliance with the limitations contained in this condition may be demonstrated using monthly emission averaging within each resin or gel coat application category listed in subsection(b) by the use of resins or gel coats with HAP monomer contents lower than the limits specified and/or additional emission reduction techniques approved by IDEM, OAQ.**

**Examples of emission reduction techniques include, but are not limited to, lower monomer content resins and gel coats, vapor suppression, vacuum bagging, or installing a control device. This is allowed to meet the HAP monomer content limits for resins and gel coats within each category, and shall be calculated on an equivalent emissions mass basis monthly to demonstrate compliance as shown below:**

**For Averaging within a category:**

$$Em_A \leq (M_R * E_a)$$

**Where:**

**$M_R$  = Total monthly mass of material within each category**  
 **$E_a$  = Emission factor for each material based on allowable monomer content and allowable application method for each category.**  
 **$Em_A$  = Actual monthly emissions from all materials used within a category based on material specific emission factors, emission reduction techniques and emission controls**  
**Units: mass = tons**  
**emission factor = lbs of monomer per ton of resin or gel coat**  
**emissions = lbs of monomer**

- (c) **Non-atomized spray application technology shall be used to apply unfilled production resins. Non-atomized spray application technology includes flow coaters, flow choppers, pressure-fed rollers, or other non-spray applications of a design and specifications approved by IDEM, OAM.**

**If it is not possible to apply a portion of unfilled resins with non-atomized spray application technology, equivalent emissions reductions must be obtained via use of other emission reduction techniques. Examples of other emission reduction techniques include, but are not limited to, lower HAP monomer content resins and gel coats, closed molding, vapor suppression, vacuum bagging/bonding, or installing a control device.**

- (d) **Unless specified in subsection (c), gel coat application and mechanical application of resins shall be by any of the following spray technologies:**
- (1) **Nonatomized application technology.**
  - (2) **Air-assisted airless.**
  - (3) **Airless.**
  - (4) **High volume, low pressure (HVLP).**

- (5) Equivalent emission reduction technologies to subdivisions (2) through (4).
- (e) Cleaning operations for resin and gel coat application equipment shall meet the following:
  - (1) For routine flushing of resin and gel coat application equipment such as spray guns, flow coaters, brushes, rollers, and squeegees, a cleaning solvent shall contain no HAPs. This emission standard does not apply to solvents used for removing cured resin or gel coat from application equipment.
  - (2) A source must store HAP containing solvents used for removing cured resin or gel coat in containers with covers. The covers must have no visible gaps and must be in place at all times, except when equipment is placed in or removed from the container.
  - (3) Recycled cleaning solvents that contain less than or equal to five percent (5%) HAP by weight are considered to contain no HAP for the purposes of this subsection.
- (f) The work practice and training standards required pursuant to 326 IAC 20-25 as specified in Condition D.3.3 shall be followed.

**D.3.3 Styrene [326 IAC 20-25]**

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The following shall apply to the reinforced plastic composites open molding process:

- (a) Pursuant to 326 IAC 20-25-4, the following work practice standards shall be implemented:
  - (1) Non-atomizing spray equipment shall not be operated at pressures that atomize the material during the application process.
  - (2) Except for mixing containers as described in item (7), HAP containing materials shall be kept in a closed container when not in use.
  - (3) Solvents sprayed during cleanup and resin changes shall be directed into solvent collection containers.
  - (4) Solvent collection containers shall be kept closed when not in use.
  - (5) Clean-up rags with solvent shall be stored in closed containers.
  - (6) Closed containers shall be used for the storage of the following:
    - (A) All production and tooling resins that contain HAPs.
    - (B) All production and tooling gel coats that contain HAPs.
    - (C) Waste resins and gel coats that contain HAPs.
    - (D) Cleaning materials, including waste cleaning materials.
    - (E) Other materials that contain HAPs.

- (7) All resin and gel coat mixing containers with a capacity equal to or greater than fifty-five (55) gallons must have a cover with no visible gaps in place at all times except when material is being added to or removed from a container, or when mixing or pumping equipment is being placed in or removed from a container.**
- (b) Pursuant to 326 IAC 20-25-8, all new and existing personnel, including contract personnel, who are involved in resin and gel coat spraying and spray-like applications (for example, those applications that could result in excess emissions if performed improperly) shall be trained according to the following schedule:**

  - (1) All personnel hired after March 7, 2001 shall be trained within fifteen (15) days of hiring.**
  - (2) All personnel hired before March 7, 2001 shall be trained or evaluated by a supervisor within thirty (30) days of the start of operation.**
  - (3) To ensure training goals listed in subsection (b) are maintained, all personnel shall be given refresher training annually.**
  - (4) Personnel who have been trained by another owner or operator subject to 326 IAC 20-25 are exempt from subdivision (1) if written documentation that the employee's training is current is provided to the new employer.**
  - (5) If the result of an evaluation shows that training is needed, such training shall occur within fifteen (15) days of the evaluation.**

**The lesson plans shall cover, for the initial and refresher training, at a minimum, all of the following topics:**

- (1) Appropriate application techniques.**
- (2) Appropriate equipment cleaning procedures.**
- (3) Appropriate equipment setup and adjustment to minimize material usage and overspray.**

**The owner or operator shall maintain the following training records on site and available for inspection and review:**

- (1) A copy of the current training program.**
- (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.**
- (c) Pursuant to 326 IAC 20-25-7(b), on or before March 1, 2002, the owner or operator of a source subject to 326 IAC 20-25 shall submit an initial statement of compliance to the commissioner. The initial statement of compliance shall include all of the following:**

  - (1) Name and address of the owner or operator.**

- (2) Address of the physical location.
- (3) Statement signed by a responsible official, as set forth in 326 IAC 2-7-1(34), certifying that the source achieved compliance on or before January 1, 2002, the method used to achieve compliance, and that the source is in compliance with all the requirements of this rule.

**D.3.4 Particulate Matter (PM) [326 IAC 6-3-2(c)]**

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Pursuant to 326 IAC 6-3-2(c), the particulate matter emissions from the fiberglass operations shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

**D.3.5 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

**Compliance Determination Requirements**

**D.3.6 Testing Requirements [326 IAC 3-2.1]**

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The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the volatile organic HAP limit specified in Condition D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

**D.3.7 Hazardous Air Pollutants (HAP) and Volatile Organic Compounds (VOC)**

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Compliance with the VOC usage limitation in D.3.1 and Compliance with the HAP monomer content and usage limitations in Condition D.3.2 shall be determined by one of the following:

- (1) The manufacturer's certified product data sheet.
- (2) The manufacturer's material safety data sheet.
- (3) Sampling and analysis, using any of the following test methods, as applicable:
  - (A) 40 CFR 60, Method 24, Appendix A (July 1, 1998)\*, shall be used to measure the total volatile HAP and volatile organic compound (VOC) content of resins and gel coats. Method 24 may be modified for measuring the volatile HAP content of resins or gel coats to require that the procedure be performed on uncatalyzed resin or gel coat samples.

(B) 40 CFR 63, Method 311, Appendix A (July 1, 1998)\*, shall be used to measure HAP content in resins and gel coats by direct injection into a gas chromatograph.

(4) An alternate method approved by IDEM, OAQ.

#### Compliance Monitoring Requirements

##### **D.3.8 Particulate Matter (PM)**

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The dry filters for particulate matter control shall be in operation at all times when the fiberglass facilities are in operation.

##### **D.3.9 Monitoring**

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the particulate emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

##### **D.3.10 Visible Emissions Notations**

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- (a) Weekly visible emission notations of the fiberglass facilities' stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.



## **Record Keeping and Reporting Requirements**

### **D.3.11 Record Keeping Requirements**

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- (a) To document compliance with Conditions D.3.1 and D.3.2, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the volatile organic compound and volatile HAP emission limits established in Conditions D.3.1 and D.3.2.
  - (1) The usage by weight and monomer content of each resin and gel coat used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS), manufacturer's certified product data sheets, and calculations necessary to verify the type, amount used, VOC and HAP content of each resin or gel coat;
  - (2) A log of the dates of use;
  - (3) Method of application and other emission reduction techniques for each resin and gel coat used;
  - (4) The calculated total volatile organic HAP emissions from resin and gel coat use for each month.
  - (5) Monthly calculations demonstrating compliance on an equivalent emissions mass basis if non-compliant resins or gel coats are used during that month.
- (b) To document compliance with Condition D.3.3(b), the Permittee shall maintain the following training records:
  - (1) A copy of the current training program.
  - (2) A list of all current personnel, by name, that are required to be trained and the dates they were trained and the date of the most recent refresher training. Records of prior training programs and former personnel are not required to be maintained.
- (c) To document compliance with Conditions D.3.4 and D.3.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with Condition D.3.10, the Permittee shall maintain records of daily visible emission notations of the fiberglass operations' stack exhaust.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### **D.3.12 Reporting Requirements**

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A quarterly summary of the information to document compliance with Conditions D.3.1 and D.3.2 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE DATA SECTION**

**Part 70 Source Modification Quarterly Report**

**Source Name:** Kreider Manufacturing, Inc.  
**Source Address:** 405 Gerber Street, Ligonier, Indiana 46767  
**Mailing Address:** 405 Gerber Street, Ligonier, Indiana 46767  
**Part 70 Permit No.:** 113-6053-00036  
**Facility:** Granite Sink Topline  
**Parameter:** Volatile organic compounds (VOC)  
**Limit:** Input of volatile organic compounds (VOC) to the granite sink top line shall be limited to 36 tons per twelve (12) month consecutive period, rolled on a monthly basis.

**YEAR:** \_\_\_\_\_

Month	Input of VOC (tons) This Month	Input of VOC (tons) Last 12 Month Total
Month 1		
Month 2		
Month 3		

- 9    **No deviation occurred in this quarter.**
- 9    **Deviation/s occurred in this quarter.**  
Deviation has been reported on: \_\_\_\_\_

**Submitted by:** \_\_\_\_\_  
**Title / Position:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

## **Conclusion**

The construction of this proposed modification shall be subject to the conditions of the proposed Part 70 Significant Source Modification No. 113-14502-00036, and the operation of this proposed modification shall be subject to the conditions of the proposed Part 70 Significant Permit Modification No. 113-14719-00036.

**Appendix A: Emission Calculations**  
**HAP Emission Calculations**

**Company Name: Kreider Manufacturing, Inc.**  
**Address City IN Zip: 405 Gerber Street, Ligonier, IN 46767**  
**CP#: 113-14502**  
**Plt ID: 113-00036**  
**Permit Reviewer: MOP**  
**Date: 8/1/01**

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Styrene	Weight % MEK	Weight % MMA	Styrene Emissions (ton/yr)	MEK Emissions (ton/yr)	MMA Emissions (ton/yr)	Emission Factor* (%)
Laminating Resin	10.8	1.740	2.05	33.50%	0.00%	0.00%	5.42	0.00	0.00	3.21
Marble Gel Coat	9.9	0.970	2.05	47.30%	0.00%	0.00%	25.18	0.00	0.00	29.20
Gel Coat (MMA)	10	0.300	2.05	30.00%	0.00%	8.00%	0.00	0.00	1.62	6.00
Gel Coat (Styrene)	10	0.300	2.05	30.00%	0.00%	0.00%	3.60	0.00	0.00	13.35
Catalyst	8	0.050	2.05	0.00%	3.00%	0.00%	0.00	0.11	0.00	

\* Emission factors for Styrene and MMA (for the Gel Coat) are from the Unified Emission Factors for Open Molding of Composites table (April 7, 1999).

Total State Potential Emissions	<b>34.19</b>	<b>0.11</b>	<b>1.62</b>
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**METHODOLOGY**

For Styrene and MMA from Gel Coat and Resin application, emissions are calculated using:

Emission Rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Emission Factor (%) \* 8760 hrs/yr \* 1 ton/2000 lbs

For all other materials, emissions are calculated using:

Emission Rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

Appendix A: Emissions Calculations  
Form DD: Reinforced Plastics and Composites  
Open Molding Operations\*

Page 2 of 2 TSD App A

Company Name: **Kreider Manufacturing, Inc.**  
Address City IN Zip: **405 Gerber Street, Ligonier, IN 46767**  
CP: **113-14502**  
Plt ID: **113-00036**  
Reviewer: MOP  
Date: 8/1/01

Material	Units per Hour	Density of Resin (lb/gal)	Amount of Resin Used per Unit (gallons/unit)	Weight % Monomer	Emission Factor (% emitted of resin weight) (see Note 1)	Transfer Efficiency (%)	Pounds VOC per hour	Pounds VOC per day	Tons of VOC per Year	Tons of PM per year
Gel Coat (styrene)	2.05	10.00	0.30	30.0%	13.4%	75%	0.821	19.705	3.596	4.714
Gel Coat (MMA)	2.05	10.00	0.30	30.0%	6.0%	75%	0.369	8.856	1.616	
Laminating Resin	2.05	10.80	1.74	33.5%	3.2%	100%	1.237	29.679	5.416	0.000
Marble Gel Coat	2.05	9.90	0.97	47.3%	29.2%	75%	5.748	137.961	25.178	11.360
Catalyst (VOC)	2.05	8.00	0.05 na		3.0%	100%	0.025	0.590	0.108	0.000
Totals:							8.200	196.790	35.914	16.074

\* Open Molding Operations include the following: manual application, mechanical application, gel coat application, and filament application.  
For all other fiberglass operations, use the AP-42 emission factors and the calculation spreadsheet fbrglap.wb3.

#### METHODOLOGY

Assume all of the monomer is styrene.

Potential VOC Pounds per Hour = Maximum (unit/hr) \* Density of Resin (lb/gal) \* Amount of Resin Used per Unit (gal/unit) \* Emission factor (% emitted of resin weight)

Potential VOC Pounds per Day = Potential VOC Pounds per Hour \* (24 hrs / 1 day)

Potential VOC Tons per Year = Potential VOC Pounds per Hour \* (8760 hr/yr) \* (1 ton / 2000 lbs)

PM Potential Tons per Year = Maximum (units/hour) \* Density of Resin (lb/gal) \* Amount of Resin Used per Unit (gal/unit) \* (1 - Weight % Volatiles/Monomer) \* (1 - Transfer efficiency) \* (8760 hr/yr) \* (1 to Transfer Efficiency and Particulate emissions are only for spray type operations. Transfer efficiency should be provided by the source, or estimated by the guidance provided in ?????).

Note 1: Calculate Emission Factors from the CFA Styrene Emissions Determination Model For Open Molding Operations (Version 3.1, July 1998).

The model is available in the S:\igcn\oam\common\manguide\nsr-psm\calcs\calcs\noncombust folder as cfa.wb3.

The CFA model was originally in Excel but has been saved as a Quattro Pro file. The calculations still work, although the formatting isn't intact.

Hard copies of the CFA Model are available from Policy and Guidance.

fibergla.wb3 11/98